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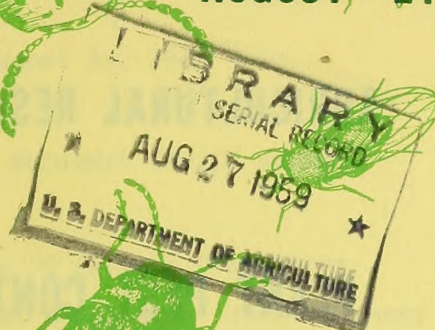
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Cooperative ECONOMIC INSECT REPORT

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AGRICULTURAL RESEARCH SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insects Conditions

First-generation EUROPEAN CORN BORER population lowest in many years in Minnesota and it appears that the second generation will be quite low in all districts. (p. 769). SOUTHWESTERN CORN BORER damaging corn in parts of Kansas and heavy in areas of Arizona. CORN EARWORM caused considerable damage to corn in sections of Kansas; is heavy in field corn in southern New Mexico counties and in coastal valleys of San Diego County, California. FALL ARMYWORM severe on corn in Pittsylvania County and caused heavy damage in a Fairfax County field in Virginia. Also damaged corn in Adams County, Pennsylvania. Serious outbreak of NORTHERN CORN ROOTWORM involves 5,000-10,000 acres in Humphreys County, Tennessee. (p. 770).

WESTERN CORN ROOTWORM damaging a field of corn in Yellowstone County, Montana, is first record for the State. CORN LEAF APHID heavy on corn in areas of San Diego County, California. (p. 771). GARDEN WEBWORM heavy in some alfalfa fields in central and southwestern Arizona. LYGUS BUGS very heavy in Arizona and abundant in Dona Ana County, New Mexico, in alfalfa. (p. 772). GREEN CLOVERWORM damaging soybeans in north central Missouri; populations could increase rapidly in east central Illinois during next one or two weeks. (p. 773).

CODLING MOTH buildup heavier than normal in Sacramento County, California. (p. 774).

POTATO LEAFHOPPER may be a problem on late lettuce in New Jersey. (p. 776).

SPIDER MITES damaging cotton in several states. (p. 780, 781). BARK BEETLES damaging pines in several states. Serious outbreaks of PINE ENGRAVER may occur throughout New York if dry weather continues. SPRUCE BUDWORM heavy in areas of Montana and Maine. (p. 782). RED-HEADED PINE SAWFLY expected to be most serious in several years in New York. (p. 783).

Musca autumnalis continues to be a problem on livestock in several states. (p. 784, 786). First report of year for SCREW-WORM in Louisiana. (p. 785). A BROWN SPIDER (Loxosceles reclusa) collected in a home in Garden City, Kansas, and large numbers present in a home in Phelps County, Missouri. (p. 785).

CORRECTIONS. (p. 786).

ADDITIONAL NOTES. (p. 786).

SUMMARY OF INSECT CONDITIONS - 1958 - CALIFORNIA. (p. 789).

Reports in this issue are for the week ending August 14, unless otherwise designated.

WEATHER BUREAU 30-DAY OUTLOOK

MID-AUGUST TO MID-SEPTEMBER 1959

The Weather Bureau's 30-day outlook for the period from mid-August to mid-September calls for temperatures to average below seasonal normals in the western half of the country, except for near to above normal along the Pacific Coast. In the eastern half of the Nation temperatures are expected to average near normal along the Gulf Coast and in the upper Mississippi Valley but above normal in the remainder of the area, with greatest departures in the Northeast. Precipitation is predicted to exceed normal in the north central portion of the country from the Great Lakes to the Rockies. Subnormal amounts are anticipated over the Far Southwest and also in a broad band from Texas through the southern Appalachians to New England. In unspecified areas near normal rainfall is indicated.

Weather forecast given here is based on the official 30-day "Resume and Outlook," published twice a month by the Weather Bureau. You can subscribe through Superintendent of Documents, Washington 25, D. C. Price \$4.80 a year, \$2.40 a half year.

WEATHER OF THE WEEK ENDING AUGUST 17

Rainfall this week was generally widely scattered, except for an extensive belt of more than 1 inch extending along the Gulf and south Atlantic coasts and for locally heavy thundershowers, especially in the Midwest. Precipitation occurred during the middle of the week along a slow-moving cold front extending from the Great Lakes through the central Great Plains, but rainfall amounts varied considerably. In general, falls of 1/2 to 1 inch prevailed. Leedey, Oklahoma, reported 5.34 inches for the week. On Friday night and Saturday morning nearly 6 inches fell in the Wichita, Kansas, area, causing a rapid rise in streams and rivers. Heavy rains then moved into southern Illinois on Sunday. By Monday morning, in Illinois, Benton reported 7.42 inches and Carbondale, 5.14 inches. Widespread local flooding and crop damage was reported. Lighter showers also occurred in surrounding Missouri, northern Illinois, Kentucky and Indiana over the weekend. Generally dry conditions continued on the West Coast and over the northern Rocky Mountain States. Scattered light showers fell along coastal Washington and Oregon, the Idaho-Washington border, the Yellowstone Valley of Montana, and in the southern Sierras and California desert regions, but elsewhere there were no beneficial rains. However, the southern Plateau and central Rocky Mountain States received some good showers. Locally heavy rains fell in southern Nevada and central and southeastern New Mexico, and light to moderate showers covered most of Utah, Arizona, and the mountains of Wyoming and Colorado. A tornado was reported on the 17th at Wellton, near Yuma, Arizona. Range conditions and soil-moisture supplies were greatly improved in these areas. Scattered showers also supplied some relief in North Dakota and southern South Dakota. Elsewhere, practically no rainfall occurred in central Texas, eastern Oklahoma, western Arkansas and over much of the Appalachians and middle Atlantic coast. Thundershowers over the weekend distributed moisture rather evenly over the Great Lakes region and New England.

Temperatures for the week averaged above normal over most of California and Nevada, and were well above normal along the central coast of California. Above-normal temperatures also prevailed in southeastern New Mexico, western Texas, and in a band from the central Great Plains into the central Mississippi Valley, southern Great Lakes region, the Appalachians and the Central and Northern Atlantic States. After midweek a high-pressure area centered off the East Coast was pumping hot, humid air from the South into the Great Lakes and the Northeast, bringing well-above-normal temperatures, with maxima in the 90's. The warmest week of the season was reported from New England. Cooler air covering the

(Weather continued on page 778)

CEREAL AND FORAGE INSECTS

GRASSHOPPERS - MONTANA - Infestations of unspecified species are greatly reduced from those of 1958. Controls were applied to a total of 50,000 to 60,000 acres on the Northern Cheyenne and Crow Indian Reservations in Rosebud and Big Horn Counties, in eastern Cascade and in Chouteau Counties and other small spots around the State. (Roemhild, July 1-Aug. 1). UTAH - Damaging crops locally at Paragonah, Iron County, with Melanoplus bilituratus and M. packardii dominant. M. bivittatus and Camnula pellucida dominant species in alfalfa fields at Panguitch, with some M. packardii present. Unspecified species locally abundant at Ogden, Orem, Holladay and Syracuse. Controls applied to 75,400 acres on the Manti-Lasal National Forest during period August 1-8. M. bruneri was dominant species, with M. borealis, M. alpinus and Camnula pellucida also damaging. Range species light in areas of Beaver Canyon and around Kent Lake in Beaver County. (Knowlton). WISCONSIN - Numbers of M. femur-rubrum lower in southern counties than in central or light soil counties and development is generally less advanced. Nymphs in third and fourth instars, except in light soils near Brodhead and Palmyra-Eagle area, where they are more numerous and in fourth and fifth instars. Counts in these areas up to 20-25 per square yard, but elsewhere high counts were 6 per square yard. (Wis. Coop. Sur.). MINNESOTA - Populations generally quite low, with economic infestations very scattered and localized. Most economic infestations present in west central and northwestern counties, where populations in some legume fields run as high as 40 per square yard. M. femur-rubrum remains dominant species. (Minn. Ins. Rpt.). INDIANA - Melanoplus spp. light to moderate along roadsides and field margins in localized areas throughout the State. Leaf feeding on corn and soybeans readily observed in areas where rainfall has been light. (Matthew). NEBRASKA - Crop species of Melanoplus spp. very light in southeastern counties. (Roselle). KANSAS - Adult counts of unspecified species in western two-thirds of State were generally noneconomic to light, with only a few scattered areas having moderate counts. (Fitchett, Bell). Counts of Melanoplus femur-rubrum, M. bivittatus, M. differentialis, M. bilituratus, Hesperotettix speciosus and Aeoloplides turnbulli were generally less than one per square yard. Moderate numbers of Brachystola magna were observed in several areas in the south central and southwest sections of the State, feeding on other grasshoppers killed by cars on highways. (Peters). OKLAHOMA - Counts ranged 5-10 per square yard on a roadside in the Cordell area, Washita County (Hudson), averaged 10 per square yard in 2 Garfield County alfalfa fields (Owens) and ranged 3-10 per square yard along roadsides in the Boise City area, Cimarron County, with Melanoplus sp. dominant (Howell). NEW MEXICO - Unspecified species causing damage to crops near Lovington, Lea County. (N. M. Coop. Rpt.). MARYLAND - Caused light to moderate injury on soybeans in Worcester County. (U. Md., Ent. Dept.).

EUROPEAN CORN BORER (Pyrausta nubilalis) - WISCONSIN - Adult numbers depositing second-generation eggs increased markedly in southern area. (Wis. Coop. Sur.). MINNESOTA - Pupation is 25, 20 and 22 percent and adult emergence is 12, 20 and 2 percent in the southwest, south central and west central districts, respectively. First-generation population lowest in many years, with only few southwestern counties maintaining relatively high numbers. It appears that the second generation will be quite low in all districts. (Minn. Ins. Rpt.). SOUTH DAKOTA - Some adult emergence has occurred in the southeast area. (Mast). NEBRASKA - Emergence of second-brood adults nearly 90 percent; flights light at light trap stations. Eggs observed in only one field of late corn in northeast part of State. (Roselle). ILLINOIS - Pupation of first-generation larvae north of Highway 6 nearing completion, and emergence is advanced. Egg laying has increased but total counts are still relatively low. Moth flight has been steadily increasing. (Ill. Ins. Rpt.). IOWA - Second-generation emergence complete at Ankeny with 92 percent of first-generation borers pupating. Egg mass accumulation on late corn in same area has reached 21.7 per 100 plants; most eggs have hatched. (Iowa Ins. Inf., Aug. 8). NEW JERSEY - Building up on sweet corn. (Ins. Dis. Newsl.) NEW YORK - Pupae and occasional first-brood larvae still found in early

variety corn stalks left standing in field in Hudson Valley. (N. Y. Wkly. Rpt., Aug. 10). DELAWARE - All larval stages and pupae numerous to abundant in field corn over the State. (Burbutis, Mason). MARYLAND - Light to moderate to date, but infestations by second-generation larvae increasing in late corn in all sections. (U. Md., Ent. Dept.).

SOUTHWESTERN CORN BORER (Zea diatraea grandiosella) - KANSAS - Damaging corn in south central and southwestern parts of State. Up to 70 percent of plants with deadheart; however, most fields show only a trace of deadheart. (Peters). ARIZONA - Continues heavy in sorghum in central and southeastern counties. (Ariz. Coop. Sur.).

CORN EARWORM (Heliothis zea) - MASSACHUSETTS - Some full grown larvae found in corn during past 10 days. Moth emergence and egg laying from this early brood can be expected about mid-August. (Crop Pest Cont. Mess., Aug. 11). NEW YORK - Only 2 moths caught in light traps in Hudson Valley, July 21-30, compared with one in 1958 and 33 in 1955, during same period. Egg laying on corn silks should increase from mid-August on, but heavy rate not expected before Aug. 20-25. (N. Y. Wkly. Rpt., Aug. 10). NEW JERSEY - Building up on sweet corn. (Ins. Dis. Newsl.). DELAWARE - Larvae common in ears of field corn throughout State and remain more abundant in southern area. (Burbutis, Mason). MISSOURI - Building up in heads of grain sorghum in southwest; infestations present only in varieties with tight heads. Counts ranged 45-110 per 100 heads. (Kyd, Thomas, Munson). OKLAHOMA - Averaged 0.1 per stalk in a Choctaw County grain sorghum field, 1.8 per linear foot in a Bryan County soybean field and up to 4 per head in a grain sorghum field in the Atoka area. Counts ranged 0.3-1 per sweep in south central and central area alfalfa fields checked, 2 per 100 heads in a grain sorghum field and 11 per 100 terminals in a peanut field in Marshall County. Infestation of heads ranged 2-20 percent in 3 grain sorghum fields checked in Caddo and Greer Counties and counts averaged 0.5 per linear foot in a milo field in Garfield County. (VanCleave et al.). KANSAS - Caused considerable damage to corn in south central and southwest sections of State; almost 100 percent of ears infested in a Harvey County field. Controls being applied to irrigated corn in Seward County. (Peters). UTAH - Damage continues to be light in northern part of the State. (Knowlton). NEW MEXICO - Heavy in field corn in southern counties. Larvae feeding in ears and whorls of younger plants. (N. M. Coop. Rpt.). CALIFORNIA - Heavy in corn in the San Pasqual, Sorrento and Osuna Valleys and coastal valleys north of Rancho Santa Fe, San Diego County. (Cal. Coop. Rpt.).

FALL ARMYWORM (Laphygma frugiperda) - COLORADO - Larvae ranged 0-3 per 10 ears of corn in Otero and Pueblo Counties. (Colo. Ins. Sur., Aug. 10). NEW YORK - First appearance of season in Hudson Valley area, July 30. Early-instar larvae found in one percent of midwhorl stage corn in New Paltz, Aug. 7. (N. Y. Wkly. Rpt.). VIRGINIA - Severe on corn, Sudangrass and pearl millet in Penhook area of Pittsylvania County (Hylton) and heavily damaged buds and whorls of 34 out of every 50 ensilage corn plants in a 5-10 acre field in Fairfax County (Morris, Beard). PENNSYLVANIA - Caused considerable damage to corn in Adams County. (Udine, Aug. 8). MARYLAND - Increasing in late corn in all sections, but infestations about normal. (U. Md., Ent. Dept.). ALABAMA - Larvae heavy in grain sorghum in Lauderdale County. (Grimes).

SORGHUM WEBWORM (Celama sorghiella) - OKLAHOMA - Counts ranged 6-15 per head in a grain sorghum field surveyed in the Atoka area. (Vinson).

NITIDULIDS - UTAH - Infesting 50-70 percent of sweet corn ears in Cedar City area of Iron County. (Knowlton).

NORTHERN CORN ROOTWORM (Diabrotica longicornis) - TENNESSEE - Serious outbreak present in corn in Humphreys County. Larvae have caused some corn to fall and large numbers of adults are destroying silks. Infestations involve 5,000-10,000 acres. (Mullett).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - MONTANA - Causing damage to a corn field near Billings, Yellowstone County, Aug. 5, with up to 100 adults per plant. This field has been in corn for 8 years. This is the first record of this species in the State. (Roemhild).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - DELAWARE - Adults present on clover and alfalfa in New Castle and Kent Counties, common in one small Sussex County alfalfa field and present on soybeans in all counties. (Burbutis, Mason). SOUTH DAKOTA - Averaged 3 per 10 sweeps in alfalfa in southeast area. (Mast). NEBRASKA - Damage to milo and sorghum moderate to locally severe in Lancaster County. (Weekman, Roselle). OKLAHOMA - Averaged 0.25 per sweep in a Choctaw County alfalfa field (Goin), ranged 0.1-2 per sweep in alfalfa fields surveyed in south central and central areas (VanCleave et al) and averaged 1 per linear foot in a Bryan County soybean field (Vinson).

CORN LEAF APHID (Rhopalosiphum maidis) - SOUTH DAKOTA - Present in most corn fields in southeast area, but no damage was evident. (Mast). MONTANA - Populations ranged from a few to 300 per plant in most barley fields in western, southern and central areas of the State during July. Barley yellow dwarf disease was common in infested fields in south central area. Not much damage apparent at end of July. Some control practiced, with fair results. (Roemhild). NEBRASKA - Infestations heavy in tassels of many corn fields in eastern and central counties. (Webb). OKLAHOMA - Averaged 2 and 4 per stalk in 2 southeastern area grain sorghum fields checked (Goin) and 50 per linear foot in a milo field in Garfield County (Owens). WISCONSIN - Populations in southern and northwestern counties have been drastically reduced by parasites, predators and possibly disease. Heavy rains have also been effective. However, large numbers are present in many fields and aphids are distributed over the entire corn plant. (Wis. Coop. Sur.). OHIO - Infestation in northwestern quarter of State appears to be declining slowly. (C. R. Neiswander). ARIZONA - Light to medium in some southeast and central area sorghum fields. (Ariz. Coop. Sur.). CALIFORNIA - Heavy on corn in Sorrento, Osuna and coastal valleys north of Rancho Santa Fe and light in early corn in the San Pasqual Valley, San Diego County. (Cal. Coop. Rpt.). MARYLAND - Generally light to moderate on tassels of sweet and field corn in all sections. (U. Md., Ent. Dept.).

FALSE CHINCH BUG (Nyzus ericae) - SOUTH DAKOTA - Counts high in Yankton, Bon Homme, Hutchinson and Davison Counties. (Mast).

BROWN STINK BUG (Euschistus servus) - ARIZONA - Populations increasing in heading grain sorghum in Cochise County. (Ariz. Coop. Sur.).

SPIDER MITES - COLORADO - Heavy populations of unspecified species developing in corn in eastern area. (Colo. Ins. Sur., Aug. 10). NEBRASKA - Infestations of Oligonychus sp. moderate in a few corn fields in Buffalo and Dawson Counties. (Roselle). WYOMING - Number of corn leaves infested by Tetranychus telarius, per 20 leaves inspected, was 17 in Henry area, 18 in Huntley area, 4 in Worland area and zero in the Powell-Cody and Torrington areas. Damage was less than one percent in the Henry and Huntley areas and zero in other areas. (Davison). UTAH - Undetermined species caused damage in some Salt Lake County corn; also damaging in Richfield-Redmond area of Sevier County and at Escalante, Garfield County. (Knowlton, Guymon). Some corn fields in Syracuse-Hooper area of Davis and Weber Counties severely damaged by Tetranychus spp. Common on field margins in these counties and in Salt Lake and Utah Counties. (Knowlton).

HESSIAN FLY (Phytophaga destructor) - COLORADO - No damage found in survey in Weld, Morgan and Adams Counties. (Colo. Ins. Sur., Aug. 10).

EUROPEAN EARWIG (Forficula auricularia) - OREGON - Heavier than normal on many hosts in Baker, Wallowa and Grant Counties, week of August 10. Especially noted damaging corn plants. (Goeden).

WEBWORMS (Loxostege spp.) - ARIZONA - L. similalis heavy in some central and southwestern area alfalfa fields. In some fields, 90 percent of plants show feeding damage and terminals webbed. (Ariz. Coop. Sur.). OKLAHOMA - Counts ranged 0.3-1 per sweep in alfalfa fields checked in south central and central areas. (VanCleave et al.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - COLORADO - Taken in Boulder County week ending August 10. (Colo. Ins. Sur.). KANSAS - Counts ranged 10-450 per sweep in south central and southwest sections of the State, with highest numbers in the Arkansas River Valley of Pawnee County. Honeydew present on alfalfa in this area. (Peters). ARIZONA - Infestations in alfalfa very light or absent, statewide. (Ariz. Coop. Sur.). NEBRASKA - Infestations continue in small numbers in southern tier of counties. Not yet observed in alfalfa surveyed along Platte River in central area. (Webb). VIRGINIA - Light on alfalfa in central and northern counties, but increasing. Averaged 3 per sweep in 3 Rappahannock County fields and one in 2 Albemarle County fields. Counts averaged 4 per 100 sweeps in one field in each of Frederick and Fauquier Counties. None were found in 3 fields in each of Loudoun and Fairfax Counties. (Morris). MISSOURI - Counts ranged 0-1.5 per sweep in alfalfa in northwest area and 0-5 in western area. (Kyd, Thomas, Munson). OKLAHOMA - Counts ranged 2-15 per sweep in south central area alfalfa fields checked and 0.3-40 in the central area. In one field in northwestern Logan County, counts averaged 100 per sweep with honeydew heavy on plants. (VanCleave et al.). Averaged 25 and 50 per sweep in 2 alfalfa fields checked in Garfield County. (Owens). None noted in an alfalfa field checked in Choctaw County. (Goin).

PEA APHID (Macrosiphum pisi) - IDAHO - Abundant on 15 acres of second-crop alfalfa in Elmore County, causing stunted leaves and retarding plant growth. (Edwards). Severe in an alfalfa seed field in Bingham County. (Bishop). Controls still being applied to alfalfa fields in Twin Falls area. (Portman). WISCONSIN - Numbers now lower in southern and northwestern counties. (Wis. Coop. Sur.). DELAWARE - Slight buildup on clover and alfalfa throughout State; more noticeable in Sussex County, but still not abundant. (Burbutis, Mason). WYOMING - Population generally low; apparently affected by hot weather. (Davison). UTAH - Numbers moderate in Sevier, Garfield and Iron Counties, with moderate damage in occasional Sevier County fields. Also damaging in Milford flats area of Beaver County. Serious in alfalfa throughout Wayne County and causing some damage in Utah, Salt Lake and Weber Counties. (Knowlton).

LYGUS BUGS (Lygus spp.) - ARIZONA - Very heavy in alfalfa statewide, averaging 40-100 per 10 sweeps. (Ariz. Coop. Sur.). NEW MEXICO - Adults and nymphs very abundant in alfalfa fields in Dona Ana County. (N. M. Coop. Rpt.). OKLAHOMA - Very light in alfalfa fields surveyed in south central and central areas. (VanCleave et al.).

PLANT BUGS (Adelphocoris spp.) - SOUTH DAKOTA - A. lineolatus populations continue moderate to high on southeast area of State and A. rapidus averaged 5 per 10 sweeps in alfalfa in same area. (Mast).

POTATO LEAFHOPPER (Empoasca fabae) - MARYLAND - Moderate on soybeans in all sections. (U. Md., Ent. Dept.). VIRGINIA - Increasing in alfalfa fields over the State and may become heavy enough to justify controls in some fields. Averages per sweep in alfalfa were 3 in 3 fields in each of Rappahannock and Fairfax Counties, 2 in 3 fields in Loudoun County; one in a Frederick County field, 5 in a field in Fauquier County and one in 2 Albemarle County fields. Highest number per any single sweep was 12. (Morris). WISCONSIN - Populations are higher in southern counties than in northwestern counties. Considerable variation exists between fields in all counties. (Wis. Coop. Sur.).

THREE-CORNERED ALFALFA HOPPER (Spissitilus festinus) - LOUISIANA - Counts ranged 6-16 per 100 sweeps in 4 soybean fields in St. Mary, St. Landry, West Baton Rouge and East Baton Rouge Parishes. (Spink). ARIZONA - Populations continue heavy (20-50 per 10 sweeps) in alfalfa, statewide. (Ariz. Coop. Sur.). NEW MEXICO - Averaged 2 adults per sweep in Dona Ana County alfalfa fields. (N. M. Coop. Rpt.). OKLAHOMA - Counts averaged 4 per sweep in a Choctaw County alfalfa field (Goin) and 0.2-3 per sweep in alfalfa fields surveyed in south central and central areas (VanCleave et al.).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - LOUISIANA - No larvae found in 7 soybean fields examined in East Baton Rouge, West Baton Rouge, St. Landry, St. Martin and St. Mary Parishes. Adults have been taken in light traps at Baton Rouge. (Spink).

GREEN CLOVERWORM (Plathypena scabra) - MISSOURI - Damage to soybeans evident in tops of plants in north central area. Counts ranged 0-5 per foot of row. (Kyd, Thomas, Munson). OKLAHOMA - Counts ranged 0.1-1.2 per sweep in most alfalfa fields surveyed in south central and central areas, with none found in a few fields. (VanCleave et al.). DELAWARE - Larvae common on clover, alfalfa and soybeans throughout State. (Burbutis, Mason). ILLINOIS - Present in many soybean fields, being especially numerous in the east central section. Most larvae are small and some are newly hatched, indicating populations could increase rapidly during next one or two weeks. (Ill. Ins. Rpt.). MARYLAND - Larvae light to moderate on soybeans in central and southern sections. (U. Md., Ent. Dept.).

ALFALFA WEEVIL (Hypera postica) - MONTANA - Caused severe damage in some newly infested areas, especially in Cascade County. (Roemhild, July 1-Aug. 1). VIRGINIA - Larval averages per 5 sweeps in alfalfa were one and two in 2 of 3 Rappahannock County fields, 3 and 2 in 2 of 3 fields in Loudoun County, 2 in a Frederick County field and one in a Fauquier County field. Two adults were seen in a field in Fauquier County and one in a Loudoun County field. No larvae or adults were observed in fields surveyed in Fairfax or Albemarle Counties. (Morris). DELAWARE - Adults and larvae in alfalfa in New Castle County and adults present in Kent County alfalfa. (Burbutis, Mason). OREGON - Counts averaged 3-4 larvae per sweep and 3-4 adults per 10 sweeps in alfalfa fields in Wallowa County, week of August 10. (Goeden). UTAH - Larvae and adults averaged 3-10 per 25 sweeps in Panguitch area alfalfa fields. (Knowlton).

LESSER CLOVER LEAF WEEVIL (Hypera nigrirostris) - IDAHO - Adults abundant in spots in Canyon County red clover fields. (Bechtolt).

CLOVER SEED CURCULIO (Sitona hispidula) - IDAHO - Adults abundant in scattered areas within red clover fields in Canyon County. (Bechtolt).

CLOVER SEED CHALCID (Bruchophagus gibbus) - IDAHO - Averaged one per sweep in red clover seed fields in the Arena Valley area. (Waters).

BEAN LEAF BEETLE (Cerotoma trifurcata) - LOUISIANA - Counts ranged 4-13 and averaged 6 per 100 sweeps in 4 fields of soybeans in St. Mary, St. Landry, East Baton Rouge and West Baton Rouge Parishes. (Spink). MISSOURI - Counts ranged 0-8 per foot of row in soybeans in north central area and 0-5 per foot of row in southwest area of State. (Kyd, Thomas, Munson). OKLAHOMA - Counts averaged 0.6 per linear foot in a soybean field checked in Bryan County. (Vinson). MARYLAND - Moderate numbers of adults noted on soybeans surveyed in all sections. (U. Md., Ent. Dept.).

BANDED CUCUMBER BEETLE (Diabrotica balteata) - LOUISIANA - Averaged 32 per 100 sweeps in 4 fields of soybeans in St. Mary, St. Landry, West Baton Rouge and East Baton Rouge Parishes. (Spink).

SUGARCANE BORER (Diatraea saccharalis) - LOUISIANA - Infestations ranged 5-29 percent in untreated sugarcane examined and 0-5 percent in treated fields in Iberia, St. Martin and St. Mary Parishes. (Spink).

A RICE DELPHACID (Sogatia orizicola) - FLORIDA - Sweepings in 7 locations of wild hosts for this vector of hoja blanca disease in Bay, Hillsborough, Manatee and Sarasota Counties were negative. Three properties previously infested in the vicinity of Belle Glade, Palm Beach County, did not show any symptoms of the disease. (Fla. Coop. Sur.). LOUISIANA - Surveys continue throughout State. No further infestations have been found since those reported in CEIR 9(32):735. (Spink).

WHITE-FRINGED BEETLES (Graphognathus spp.) - FLORIDA - A total of 204 sites in 12 counties were surveyed, with no new counties found infested. Extensions of infestations were found in Calhoun, Jackson, Santa Rosa and Washington Counties. (Fla. Coop. Sur.).

SUNFLOWER MOTH (Homoeosoma electellum) - CALIFORNIA - Medium in cultivated sunflowers in Fresno, Fresno County. (Cal. Coop. Rpt.).

FRUIT INSECTS

CODLING MOTH (Carpocapsa pomonella) - CALIFORNIA - Heavy in 4,300 acres of pears in the Delta-American River area of Sacramento County. Buildup heavier than for many years, being heavier than normal in every orchard. (Cal. Coop. Rpt.). WYOMING - Has caused 5-20 percent damage to unsprayed apple trees throughout State. (Davison). UTAH - Infestations in home apple and pear orchards in Weber, Salt Lake and Utah Counties ranged 80-98 percent wormy fruit. (Knowlton).

APPLE APHID (Aphis pomi) - NEW MEXICO - Heavy and damaging apple foliage in orchards near Mesilla Park, Dona Ana County. (N. M. Coop. Rpt.).

A CHAFER (Macrodactylus uniformis) - ARIZONA - Heavy in tops of apple trees in Graham County orchards earlier. No adults present on trees now, but some weeds in area are still heavily infested. (Ariz. Coop. Sur.).

SPIDER MITES - MINNESOTA - Heavy on fruit trees in the southeast area. (Minn. Ins. Rpt.). UTAH - Seriously discoloring apple and damaging pear foliage commonly in Iron, Garfield, Juab, Tooele and Millard County orchards. Less frequently, plum and cherry foliage shows moderately severe injury. Severe in home orchards in Box Elder, Weber, Davis, Salt Lake and Utah Counties. (Knowlton).

LONG-TAILED MEALYBUG (Pseudococcus adonidum) - CALIFORNIA - Light to heavy on quince in Gonzales, Monterey County. (Cal. Coop. Rpt.).

A LEAF MINER (Lithocolletis sp.) - OREGON - Causing very little damage, as compared with previous years, on pear foliage in Jackson County. (Gentner).

PEAR-SLUG (Caliroa cerasi) - UTAH - Light to moderate generally in Box Elder, Weber, Davis, Salt Lake and Utah County apple, pear, cherry and prune orchards. (Knowlton)

AN OLETHREUTID - OREGON - Eighty to 90 percent infestation of larvae on unsprayed peaches in Pleasant Hill area south of Eugene. (Eppley).

PEACH TWIG BORER (Anarsia lineatella) - OREGON - Infesting poorly treated peach orchards in the Medford area; approximately 50 percent loss of peaches from these particular orchards. (Gentner). More severe than normal in the Roseburg area. (Jones).

WESTERN SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata) - OREGON - Not as severe as in 1958 on ripening peaches in the Corvallis area. (Jones).

PLUM GOUGER (Anthonomus scutellaris) - NEW MEXICO - Probably this species, heavy in plums in Rio Arriba and Taos Counties. Adults now emerging. (N. M. Coop. Rpt.).

SPITTLEBUGS (undetermined) - VIRGINIA - Generally infesting most pecan trees on the Eastern Shore. (Hofmaster).

A WEEVIL (Conotrachelus sp.) - MISSISSIPPI - Causing severe losses to pecan growers throughout pecan-growing areas of State. Damage especially noticeable due to poor crop reported over the pecan belt. (Hutchins).

HICKORY SHUCKWORM (Laspeyresia caryana) - ALABAMA - Nearly full grown larvae collected in Lee County for first time this year. (Guyton).

CALIFORNIA RED SCALE (Aonidiella aurantii) - CALIFORNIA - Heavy on lemon and light on orange in Gonzales, Monterey County. (Cal. Coop. Rpt.).

A MEALYBUG (Pseudococcus malacearum) - CALIFORNIA - Heavy on fig trees in Gonzales, Monterey County. (Cal. Coop. Rpt.).

AN ARCTIID (Halisidota argentata) - OREGON - Adults taken in black light trap in abundance near Bridge, Coos County, July 31. (Eppley).

TRUCK CROP INSECTS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - IDAHO - Adults abundant in several fields in Fremont County, with late instar larvae present but no eggs found. (Bishop). Adults of second generation appearing in some Jerome County potato fields; no eggs found. (Portman). DELAWARE - Adults and larvae fairly common on potatoes and tomatoes throughout State. (Burbutis, Mason).

A LEAFHOPPER (Empoasca filamenta) - IDAHO - Extremely abundant in many potato fields in Bingham and Power Counties. (Bishop). UTAH - Causing moderate damage to some potato patches in the Syracuse-Clinton area of Davis County. (Knowlton).

POTATO APHID (Macrosiphum solanifolii) - IOWA - Abundant in the Mason City-Clear Lake area on potato foliage. (Iowa. Ins. Inf., Aug. 8). DELAWARE - Building up to heavy infestations on tomatoes in Kent County. (Burbutis, Mason). MASSACHUSETTS - Very abundant and continually establishing new colonies on vine crops, tomatoes, peppers and cole crops. (Crop Pest Cont. Mess.).

Potato Aphids in Maine - Very small to large numbers in the Presque Isle area. Small numbers predominating in experimental plantings and in one nearby untreated commercial planting. Macrosiphum solanifolii generally predominates, but Myzus persicae, Aphis abbreviata and M. solani also are present. No reports of large aphid populations or of unsatisfactory control in commercial plantings in northeastern area. Fall migration of A. abbreviata began August 13. Fungus diseases of the aphids on potatoes increased in abundance and importance. Predators and parasites continue to be of considerable importance in holding down aphid numbers. (Shands).

POTATO FLEA BEETLE (Epitrix cucumeris) - MAINE - Generally very small numbers on potato foliage in the Presque Isle area. No reports of appreciable numbers in commercial plantings elsewhere in northeastern area. (Shands).

POTATO TUBERWORM (Gnorimoschema operculella) - CALIFORNIA - Heavy on potatoes in Patterson, Stanislaus County. (Cal. Coop. Rpt., Aug. 7).

WESTERN POTATO FLEA BEETLE (Epitrix subcrinita) - IDAHO - Larvae severely damaging tubers of a 10-acre potato field near Parma. (Scott).

EUROPEAN CORN BORER (Pyrausta nubilalis) - VIRGINIA - Third-brood adults have emerged and are laying eggs on peppers in eastern area. (Hofmaster). MARYLAND - Increasing in peppers on the Eastern Shore. At highest levels this season. (U. Md., Ent. Dept.).

GREEN PEACH APHID (Myzus persicae) - DELAWARE - Colonies building up on potatoes in Kent County, and very abundant on peppers in Sussex County. (Burbutis, Mason). VIRGINIA - Fairly general on peppers in eastern area. (Hofmaster). MARYLAND - Moderate to date, but increasing on peppers on Eastern Shore. (U. Md., Ent. Dept.).

PEPPER WEEVIL (Anthonomus eugenii) - CALIFORNIA - Infestations developing in pepper plantings in southern Orange County. (Campbell).

TOMATO FRUITWORM (Heliothis zea) - NEW MEXICO - Generally light with occasional heavy infestation in tomato fields in Dona Ana, Luna and Lea Counties. (N. M. Coop. Rpt.).

HORNWORMS (Protoparce spp.) - NEW MEXICO - Generally light with occasional heavy infestation in tomato fields in Dona Ana, Luna and Lea Counties. Also damaging chili in northern Dona Ana County. (N. M. Coop. Rpt.).

CABBAGE LOOPER (Trichoplusia ni) - WISCONSIN - Heavy in some cabbage fields in Outagamie County, August 6. Larvae ranged from newly hatched to mature. (Wis. Coop. Sur.). DELAWARE - Numerous on broccoli and potatoes in New Castle County. Present on pumpkin squash, broccoli and cabbage in Kent County and on tomatoes, pumpkin squash and pepper in Sussex County. (Burbutis, Mason). VIRGINIA - Damaging young broccoli, salad, kale and collards in eastern truck-crop area. However, is not as numerous as at this time in 1958. (Hofmaster). MARYLAND - Abundant on untreated cabbage in most sections. (U. Md., Ent. Dept.).

CUTWORMS - VIRGINIA - Damaging young broccoli, salad, kale and collards in eastern truck-crop area. (Hofmaster). GEORGIA - Heavy on Troup County pepper. (Johnson).

FLEA BEETLES - VIRGINIA - Damaging young broccoli, salad, kale and collards in eastern truck-crop area; unusually heavy. (Hofmaster). PENNSYLVANIA - Very abundant on cabbage in Blair County. (Udine). MARYLAND - Phyllotreta spp. destructive to untreated crucifers in most sections. (U. Md., Ent. Dept.). UTAH - Causing moderate damage to some potato patches in the Syracuse-Clinton area of Davis County. (Knowlton).

POTATO LEAFHOPPER (Empoasca fabae) - NEW JERSEY - Populations fairly large this year and may be problem with late lettuce. (Ins. Dis. Newsl.). WISCONSIN - Counts ranged up to 4 per linear foot of row in lima beans in Trempealeau County. (Wis. Coop. Sur.). DELAWARE - Adults and nymphs abundant on one large planting of potatoes in New Castle County, causing severe "hopperburn". Present on potatoes in Kent and Sussex Counties. (Burbutis, Mason). MARYLAND - Abundant on snap and lima beans in home gardens over State. (U. Md., Ent. Dept.).

SPIDER MITES (Tetranychus spp.) - IDAHO - Common in beans, corn and potatoes in southern and southeastern areas. Populations much higher than usual, with many fields requiring control. (Gibson, Portman). CALIFORNIA - T. telarius heavy on squash plants in Jackson, Amador County. (Cal. Coop. Rpt.). MINNESOTA - Undetermined species damaging strawberry fruit in the Grand Rapids area. (Minn. Ins. Rpt.).

DIAMONDBACK MOTH (Plutella maculipennis) - VIRGINIA - Damaging young broccoli, salad, kale and collards in eastern truck-crop area. (Hofmaster).

CABBAGE APHID (Brevicoryne brassicae) - DELAWARE - Colonies building up on broccoli in Kent County. (Burbutis, Mason). MARYLAND - Moderate to heavy on cabbage, broccoli and other crucifers in sections of Prince Georges and Montgomery Counties. (U. Md., Ent. Dept.). MASSACHUSETTS - Very abundant and continually establishing new colonies on vine crops, tomatoes, peppers and cole crops. (Crop Pest Cont. Mess.).

IMPORTED CABBAGEWORM (Pieris rapae) - WISCONSIN - Larvae averaged 3 per mint plant and adults numerous and laying eggs in Kenosha County, week ending July 24. Heavy in some cabbage fields in Outagamie County, August 6. Larvae ranged from newly hatched to mature. (Wis. Coop. Sur.).

MELON APHID (Aphis gossypii) - MASSACHUSETTS - Very abundant and continually establishing new colonies on vine crops, tomatoes, peppers and cole crops. (Crop Pest Cont. Mess.).

MEXICAN BEAN BEETLE (Epilachna varivestis) - ARIZONA - Heavy on pinto beans in Greenlee County. (Ariz. Coop. Sur.). MARYLAND - Severe on snap and lima beans in home gardens. (U. Md., Ent. Dept.). UTAH - Damage common in home gardens throughout Salt Lake and Logan areas. (Knowlton).

SALT-MARSH CATERPILLAR (Estigmene acrea) - CALIFORNIA - Has damaged lima beans in western Orange County, feeding on foliage and pods. As high as 25 percent of pods per foot of row damaged in some fields. (Campbell).

LEAF MINERS - DELAWARE - Mines fairly common in leaves of lima beans in New Castle County, very common in pumpkin squash in Kent and Sussex Counties with up to 17 mines per leaf. Common in young snap beans in Sussex County. (Burbutis, Mason). VIRGINIA - Probably Liriomyza sp., abundant on young cucumbers and snap beans in eastern area. (Hofmaster).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - CALIFORNIA - Bean plants being infested and heavy infestations in corn in Arlington and Riverside, Riverside County, and in bean fields in San Bernardino County. Infestations medium in cornstalks at Lakeside, San Diego County. (Cal. Coop. Rpt.). VIRGINIA - Damage rather severe to snap and lima beans in localized eastern areas of State. (Hofmaster).

PALE-STRIPED FLEA BEETLE (Systema blanda) - DELAWARE - Adults common on pumpkin squash in Kent County and on lima beans in Kent and Sussex Counties. (Burbutis, Mason).

SQUASH BUG (Anasa tristis) - MARYLAND - All stages abundant on squash at various localities in Prince Georges County. (U. Md., Ent. Dept.).

SWEETPOTATO FLEA BEETLE (Chaetocnema confinis) - LOUISIANA - Larvae heavily damaging sweetpotatoes in St. Landry Parish. Approximately 80 percent of roots are injured in some fields. (Spink).

BANDED CUCUMBER BEETLE (Diabrotica balteata) - LOUISIANA - Larvae heavily damaging sweetpotatoes in St. Landry Parish. Approximately 80 percent of roots are injured in some fields. (Spink).

BEET WEBWORM (Loxostege sticticalis) - MONTANA - Most beet fields in Billings area treated. Scattered infestations in other beet-growing areas. (Roemhild).

ARMYWORM (Pseudaletia unipuncta) - DELAWARE - Adult flight heavy in northern New Castle County. (Burbutis, Mason).

STRAWBERRY ROOT APHID (Aphis forbesi) - NORTH CAROLINA - Infesting strawberries locally in Ashe County. (Gardner, Olive).

TOBACCO INSECTS

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - MARYLAND - Adults at highest numbers of season, averaging 6-11 per plant on late tobacco in St. Marys County. (U. Md., Ent. Dept.). VIRGINIA - Infestations in most tobacco fields in Pittsylvania County have decreased during the past week. (Dominick). NORTH CAROLINA - Few in tobacco in Granville County. (Chamberlin).

HORNWORMS (Protoparce spp.) - MARYLAND - Second-brood moth flights heaviest of season at Upper Marlboro. (U. Md., Ent. Dept.). VIRGINIA - Generally light on tobacco in Pittsylvania County. (Dominick). NORTH CAROLINA - Light on tobacco in Granville County. (Chamberlin).

TOBACCO BUDWORMS (Heliothis spp.) NORTH CAROLINA - Scarce on tobacco in Granville County. (Chamberlin).

GREEN PEACH APHID (Myzus persicae) - MARYLAND - Continues to infest tobacco at economic levels. More numerous and heavier than in 1958. (U. Md., Ent. Dept.). VIRGINIA - Decreased on tobacco in Pittsylvania County during past week. (Dominick). NORTH CAROLINA - Scarce on tobacco in Granville County. (Chamberlin).

(Weather continued from page 768)

northern Rocky Mountains, northern Great Plains and northern Great Lakes produced weekly temperature departures well below normal in those sections. Butte, Montana, recorded 29° on the 8th and International Falls, Minnesota, 42° on the 13th. General showers and cloudiness over the central and southern plateau, the southern Great Plains, and the Southeast also kept temperatures below normal over those areas. (Summary supplied by U. S. Weather Bureau).

COTTON INSECTS

BOLL WEEVIL (*Anthonomus grandis*) - SOUTH CAROLINA - Continues to increase as hatch continues in the Florence area. Plants virtually denuded of squares and young bolls being attacked. (Fye et al.). Increasing in every cotton growing county reporting. (Cot. Let.). LOUISIANA - Morehouse Parish: infestations ranged 0-64 percent and averaged 17 percent in 280 fields. Tensas Parish: ranged 1-32 percent and averaged 10 percent in 62 fields, and ranged 3-95 percent and averaged 19 percent in 217. Franklin Parish: ranged 1-85 percent and averaged 19 percent in 79 fields. Ouachita Parish: ranged 0-29 percent and averaged 9 percent in 73 fields. Concordia Parish: ranged 10-20 percent in 2200 acres and 20-30 in 800 acres. Catahoula Parish: in 350, 400 and 250 acres infestations ranged 10-20, 20-30 and 30-40 percent respectively. (Spink). Madison Parish: square infestation ranged 2-98 percent and averaged 22 percent in 146 fields and ranged 1-82 percent and averaged 16 percent in 148 fields. (Smith et al.). ARKANSAS - Second and third-generation emergence is general. Counts in southwest area range 5-95 percent. (Ark. Ins. Rpt.). MISSOURI - Of 992 fields surveyed, 25 were infested, with 2.5 percent of squares punctured. (Kyd, Thomas, Munson). OKLAHOMA - Counts averaged 26 percent in 3 fields in Muskogee County; averaged 72 percent in 4 fields in Pushmataha, McCurtain and Choctaw Counties; averaged 33 percent in south central area fields and 16 percent in central area fields; averaged 9 percent in 6 fields in Jefferson, Tillman, Jackson and Harmon Counties; and ranged 1-2 percent in 3 of 9 fields in Greer, Washita and Caddo Counties. (VanCleave et al.). TENNESSEE - Some weevils have begun to migrate at this time in the western area, leaving fields that are cutting out and moving to fields that are not maturing as fast. Counts down this week. Averaged 24 percent this week; were 27 percent last week and 21 percent this time in 1958. No infestations found in northern area. (Locke). TEXAS - Infestations spotted throughout State with some heavy populations noted in the north central and central areas. (Gaines). Squares too scarce in many fields in the McLennan and Falls County area for records to be made. However, adults present in sufficient numbers for immature boll protection. (Parencia et al.). MISSISSIPPI - Infestations continue low in general for the delta area. Mostly spotty but some fields of older cotton showed sharp rise due to decrease in squaring. (Merkl et al.). ALABAMA - Increasing throughout State. Ranged 2-50 percent in the northern area. (Ledbetter, Turner, Thompson, Canaday, Carter). GEORGIA - Square counts made in 18 of 38 fields in middle and southern area ranged 20-85, averaging 64 percent punctured squares. (Johnson).

BOLLWORMS (*Heliothis* spp., et al.) - CALIFORNIA - Light on cotton in Blythe, Riverside County. (Cal. Coop. Rpt., Aug. 7). Evident in many fields in low numbers in the San Joaquin Valley. (Beards). Heavy hatch continues with some counts of 50-70 per 100 terminals, with some fields requiring treatment at 8-10 day intervals in Imperial County. (Peterson). SOUTH CAROLINA - Some fields being seriously injured in the Florence area. Moth flight increasing. Rank growth of cotton and current weather ideal for further damage. (Fye et al.). Activity continues strong in most counties reporting. Infestations seem spotty. (Cot. Let.). LOUISIANA - Concordia Parish: in 3000 acres infestations ranged 2-7 percent. Catahoula Parish: in 1000 acres ranged 2-7 percent. Morehouse Parish: in 280 fields ranged 0-14 percent and averaged 3 percent. Tensas Parish: in 62 fields ranged 0-4 percent and averaged 1 percent, and in 217 fields ranged 0-5 percent. Larval infestations ranged 0-6 per 100 terminals. Franklin Parish: in 79 fields ranged 1-14 percent and averaged 3 percent. Ouachita Parish: in 73 fields ranged 0-5 percent and averaged 1 percent. (Spink). Madison Parish: in 146 fields, 95 were infested averaging 2 percent and ranged 0-9 percent. Eggs and small worms generally light but building up in some fields. (Smith et al.). ARKANSAS - Fourth-generation moths beginning to emerge. Building up in fields where improper treatments being applied. (Ark. Ins. Rpt.). NEW MEXICO - Generally light with spotty heavy infestations in Lea, Eddy, Dona Ana and Luna Counties. (N. M. Coop. Rpt.). MISSOURI - Of 992 fields surveyed, 931 were infested. Egg counts ranged 0-19 per 100 terminals and larvae ranged 0-32 per 100 terminals. (Kyd, Thomas, Munson). OKLAHOMA - Counts averaged 4 percent in 3 fields in Muskogee County; 5 percent in 4 fields in Pushmataha, McCurtain and Choctaw Counties; 8 percent in

south central area and 7 percent in central area; 5 percent in 6 fields in Jefferson, Tillman, Jackson and Harmon Counties; and 4 percent in 9 fields in Greer, Washita and Caddo Counties. (VanCleave et al.). TENNESSEE - Increasing slightly in the western area. (Locke). TEXAS - Infestations spotted throughout State. (Gaines). Square and boll injury light in McLennan and Falls Counties. (Parenchia et al.). MISSISSIPPI - Moth catches in light traps reached highest point of season during the week in the delta area. Egg deposition increasing toward end of week. (Merkl et al.). ALABAMA - Only 33 of 117 fields surveyed were infested. Average percent infestation was 2.57, and the highest infestations were in Macon, Pickens, Henry and Coffee Counties. (Grimes). GEORGIA - Egg counts made in 38 fields in middle and southern areas ranged 0-14 per 100 terminals, averaging 2. Larval counts ranged 0-12 per 100 terminals, averaging 7. (Johnson).

CABBAGE LOOPER (Trichoplusia ni) - CALIFORNIA - Generally low populations in all cotton-growing areas of State. (Cal. Coop. Rpt.). NEW MEXICO - Generally light on cotton in southern counties. (N. M. Coop. Rpt.). ARIZONA - Continuing to build up in some fields in central area. (Ariz. Coop. Sur.). OKLAHOMA - Moderate in Yuba area cotton and averaged 4 per plant in a cotton field in the Hollis area. (VanCleave et al.). TEXAS - Mostly light throughout State. (Gaines). GEORGIA - Light to moderate in all fields surveyed. (Johnson).

PINK BOLLWORM (Pectinophora gossypiella) - TEXAS - Have not developed into any outstanding numbers. (Gaines).

BEET ARMYWORM (Laphygma exigua) - ARIZONA - Continues to be a problem in some areas of Maricopa and Pinal Counties. Larval counts again increasing. (Ariz. Coop. Sur.).

COTTON LEAF PERFORATOR (Bucculatrix thurberiella) - CALIFORNIA - Continues heavy in cotton throughout Imperial County. (Peterson). ARIZONA - Light along the edges of some fields in Maricopa County. Some fields continue heavily infested in Yuma County. Problem more widespread following a severe rain and wind storm in that area. (Ariz. Coop. Sur.).

APHIDS - CALIFORNIA - Causing considerable honeydew in cottonfields in Tulare County. (George). In the Kearney Park area, Fresno County, rank cotton severely infested with honeydew deposits. (Ruud, Jr. Ext. Ser.). SOUTH CAROLINA - Only a few fields reporting high infestations. (Cot. Let.). ARKANSAS - Building up in some fields. Infestations present but not heavy in southwest area. (Ark. Ins. Rpt.). OKLAHOMA - Aphis gossypii light to medium in scattered fields throughout southern half of State. (Goin, Vinson, Hatfield, Hudson). TENNESSEE - Decreasing slightly but present in most fields. Infestations far heavier in cotton fields treated for boll weevil. (Locke). TEXAS - Light to medium in two fields in McLennan and Falls Counties. (Parenchia et al.). GEORGIA - A. gossypii light to moderate with most fields having light infestations. (Johnson).

SPIDER MITES - CALIFORNIA - Continue to cause severe damage where uncontrolled. (Leigh, Beards). Predator control of mites better in Tulare County than in previous years. (George). Becoming problem in local areas near Calipatria-Niland in Imperial County where fields have received repeated applications of insecticides. (Peterson, Jr. Ext. Ser.). SOUTH CAROLINA - Still problem in drier areas. (Cot. Let.). ARKANSAS - Present in many fields but apparently not building up too rapidly. (Ark. Ins. Sur.). MISSOURI - Of 992 fields surveyed, 496 were infested. (Kyd, Thomas, Munson). TENNESSEE - Found in 76 percent of fields inspected this week. Some infestations causing severe spot damage. Heaviest infestations in the northwestern part of cotton-growing area. (Locke). TEXAS - Light in several fields in the McLennan and Falls Counties area. (Parenchia et al.). MISSISSIPPI - Damaging infestations appearing in some fields of the delta area and control measures needed. Light infestations are general in most fields. (Merkl et al.).

ALABAMA - Continue to damage cotton throughout the Tennessee Valley of northern area. Extremely heavy infestations observed in Madison, Lawrence, Limestone, Colbert and Lauderdale Counties. Moderate to heavy in the Sand Mountain area. (Grimes). GEORGIA - Light to moderate with most fields having moderate infestation. (Johnson).

FLEAHOPPERS - TEXAS - Spotted infestations continued to cause some damage on the south plains. (Gaines).

STINK BUGS - NEW MEXICO - Medium to heavy in cotton fields where no control measures used in Lea, Eddy and Dona Ana Counties. (N. M. Coop. Rpt.). ARIZONA - Euschistus servus medium to heavy in some cotton statewide. Particularly heavy, along with Chlorochroa sayi and C. ligata in some Graham County fields. (Ariz. Coop. Sur.). GEORGIA - E. servus moderate in one field in Wayne County. (Johnson).

LYGUS BUGS (Lygus spp.) - CALIFORNIA - Abundant and increasing in many fields in Kern and west Fresno Counties. (Leigh). Nymph counts generally increasing with highest counts on rank cotton in Imperial Valley, Imperial County. (Peterson). NEW MEXICO - Nymphs very abundant in cotton squares of many fields in Dona Ana County. Both nymphs and adults have caused considerable damage where necessary control measures not used. (N. M. Coop. Rpt.). ARIZONA - Populations and damage continuing heavy in cotton statewide. (Ariz. Coop. Sur.). TENNESSEE - Moderate in Henderson County this week, most fields surveyed infested. (Locke).

COTTON LEAFWORM (Alabama argillacea) - ALABAMA - Moderate in Escambia County. First report of activity for the year in this State. (Grimes).

GRASSHOPPERS - OKLAHOMA - Counts ranged 2-7 per square yard in the margins of two cotton fields in Washita County, and averaged 20 per square yard in a field in the Enid area. (Hudson, Owens).

A LEAF ROLLER (Platynota stultana) - CALIFORNIA - Still increasing with egg counts high in many fields and treatment required in Imperial County. (Peterson).

POTATO LEAFHOPPER (Empoasca fabae) - CALIFORNIA - Causing some "hopper burn" on cotton leaves in the foothill area south and east of Porterville, Tulare County. Building up recently. (George).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

BARK BEETLES - CALIFORNIA - Dendroctonus brevicornis and Ips confusus causing top kill and tree kill in group of ponderosa pines locally in El Dorado and Amador Counties. Dryness and hot weather contributed to damage. (Maguire). Infestation at the 4,000 foot level in Trinity County increasing, usually spreading upwards rather than laterally. (Fehly). I. confusus and I. latidens causing top and complete kill of single trees in a 1,200 acre stand in Indian Canyon area of Cleveland National Forest. (Pierce). D. monticolae apparently building up in small pushed-over sugar pines in 1958 logging operations. Many single trees in a 3,000 acre stand in Mokelumne Hill area of Calaveras County dying. (Bryan). Dendroctonus spp. causing complete kill of one or two mature ponderosa and Jeffrey pines per acre in a 60,000 acre stand in the Hat Creek district. Lightning associated with the damage. (Hopper). MONTANA - D. monticolae infesting western white pine and D. pseudotsugae attacking Douglas-firs. Both pines and Douglas-fir were blown down in November 1958, along Hungry Horse Reservoir. D. monticolae infesting 6-8 trees in several acres of 100-year old lodgepole pine in Soap Creek drainage, Beaverhead National Forest. (Tunnock, July Rpt.). NORTH CAROLINA - D. terebrans attacking pine locally in Wake County. (Scott, Farrier).

WHITE-PINE WEEVIL (Pissodes strobi) - NEW YORK - Heavy throughout State and heavier than last year, with medium infestations on Scotch pine in Tompkins and Tioga Counties. PENNSYLVANIA - In Forest County attacking moderate numbers of Austrian pine, lightly attacking white and Scotch pines. NEW HAMPSHIRE - More abundant than in recent years. (Northeast. For. Pest Rpt., Aug. 10).

PINE ENGRAVER (Ips pini) - NEW YORK - Scattered outbreaks in Saratoga County plantations of red pine and heavy buildup in girdled trees. It is believed that serious outbreaks may occur throughout State if dry weather continues. (Northeast. For. Pest Rpt., Aug. 10).

PINE ROOT COLLAR WEEVIL (Hylobius radicis) - NEW YORK - Heavy infestation on about 18 acres of pines in Warren and Saratoga Counties; also killing pines in Lewis County. (Northeast. For. Pest Rpt., Aug. 10).

ALDER FLEABEETLE (Altica ambiens) - IDAHO - Larvae abundant on alder between Viola and Coeur d'Alene. Caused extreme defoliation. (Foote, Barr).

SPRUCE BUDWORM (Choristoneura fumiferana) - MONTANA - Heavy defoliation of Douglas-fir in areas along Gallatin River, Gallatin National Forest. Moths emerging during July. (Roemhild). MAINE - Noticeable defoliation on 250,000 acres extending from Hedgehog Mountain south to Ashland and from Portage west to Ferguson and Carr Ponds. This area is immediately west of the 1958 control region. Much of injury classed as medium to heavy. Egg mass survey in progress. (Northeast. For. Pest Rpt., Aug. 10).

TENT CATERpillars (Malacosoma spp.) - MONTANA - Generally down this year. Present July 1-20 in central area on caragana, lilac and other ornamentals. (Roemhild).

OAK SKELETONIZER (Bucculatrix ainsliella) - PENNSYLVANIA - Heavy feeding on oaks in Bradford County. (Drooz).

MAPLE LEAF CUTTER (Paraclemensia acerifoliella) - NEW YORK - Again appeared in State between Boonville and Carthage and populations expected to be as high or higher than a year ago. (Northeast. For. Pest Rpt., Aug. 10).

LARCH SAWFLY (Pristiphora erichsonii) - PENNSYLVANIA - Defoliated Japanese larch plantings near Emporium, Waterville and Renovo. Trees were stripped. At the Renovo site this was the sixth year of observed defoliation but cores indicated about 10 years of damage. (Northeast. For. Pest Rpt., Aug. 10).

PINE SAWFLIES (Neodiprion spp.) - NEW YORK - N. sertifer in outbreak numbers locally in Niagara County. N. lecontei expected to be most serious in several years this season, where medium to heavy damage to red pine is reported over the State. (Northeast. For. Pest Rpt., Aug. 10).

ASH PLANT BUG (Neoborus amoenus) - MONTANA - Common on green ash in July, central area. (Roemhild).

PINE SPITTLEBUG (Aphrophora parallela) - NEW YORK - Southern tier of counties with medium to heavy infestations on pine; Saranac area also infested. (Northeast. For. Pest Rpt., Aug. 10).

SOLITARY OAK LEAF MINER (Cameraria hamadryadella) - Caused considerable blotching and leaf shedding of white oak in MASSACHUSETTS. Damage quite noticeable throughout CONNECTICUT, RHODE ISLAND and Orange County, NEW YORK. (Northeast. For. Pest Rpt., Aug. 10).

TUPELO LEAF MINER (Antispila nysaefoliella) - TENNESSEE - Light infestation on black gum in Henry County. (Bennett).

EASTERN SPRUCE GALL APHID (Chermes abietis) - NORTH CAROLINA - Infesting red spruce in Graham County. (Plt. Dis. Clinic, Farrier).

COOLEY SPRUCE GALL APHID (Chermes cooleyi) - MONTANA - Heavy feeding on Douglas-fir saplings on east shore of St. Mary Lake, Glacier National Park. (Tunnock, July 1-Aug. 1). IDAHO - Abundant on Engelmann spruce at Tensed. (Foote, Barr).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - WISCONSIN - As of August 13, the total number of Dutch elm disease cases was 3,101 for the season. Four new municipalities in 4 counties reported. Second emergence of beetles continuing and eggs hatching. (Wis. Coop. Sur.). OKLAHOMA - Heavy on some American elms at Carney, Lincoln County. (Stiles).

ELM LEAF BEETLE (Galerucella xanthomelaena) - OKLAHOMA - Heavy defoliation on elms at Purcell. Populations mostly in pupal stage but adults emerging and ovipositing. (VanCleave, Stiles, Phelps). Heavy on elms at Kingfisher with counts averaging 4 larvae per leaf. (Owens). Infesting some elms at Elk City. (Burke).

ELM LEAF APHID (Myzocallis ulmifolii) - CALIFORNIA - Heavy on street elms in Roseville, Placer County. (Cal. Coop. Rpt.).

LOCUST BORER (Megacyllene robiniae) - NEW YORK - Common and causing many complaints. (N. Y. Wkly. Rpt., Aug. 10).

FALL WEBWORM (Hyphantria cunea) - DELAWARE - Present throughout State with heaviest concentration in Sussex County on black walnut, cherry, oak, apple and crab apple. (Burbutis, Mason). NEW MEXICO - Continues to be problem on shade trees throughout most of State. (N. M. Coop. Rpt.). ALABAMA - Moderate to heavy infestations on persimmons throughout northern area. (Grimes).

BAGWORM (Thyridopteryx ephemeraeformis) - OKLAHOMA - Very heavy on evergreens at Elk City. Limited number on elms and roses in same area. (Meharg). ALABAMA - Heavy infestation on arborvitae and pine in Monroe County. (Lemmons).

LEAFHOPPERS - OKLAHOMA - Heavy (1000 per 100 leaves) on some shade trees at McAlester. (Meharg). WYOMING - Damaged many shade trees throughout State. (Davison).

MIMOSA WEBWORM (Homadaula albizziae) - SOUTH CAROLINA - On mimosa in Spartanburg County. More numerous this year than in 1958. (Nettles et al., Aug. 5).

SYCAMORE LACEBUG (Corythucha ciliata) - NEW YORK - Becoming noticeable on sycamores in Suffolk County along village streets. (N. Y. Wkly. Rpt., Aug. 10).

WALKINGSTICK (Diaperomera femorata) - MINNESOTA - Heavily feeding on hazel brush near Nevis. (Minn. Ins. Rpt.).

APHIDS - MONTANA - Many species much more abundant than usual this year. Predators controlled most of infestations during July. (Roemhild). IDAHO - Undetermined species abundant on grand fir at Tensed and on lodgepole pine near Athol. (Foote, Barr).

VIRGINIA-CREEPER LEAFHOPPER (Erythroneura ziczac) - MONTANA - Common on Virginia creeper in eastern area during July. (Roemhild).

UGLY-NEST CATERPILLAR (Archips cerasivorana) - MONTANA - Feeding on caragana in north central area and on ornamentals in western area in July. (Roemhild).

LILAC LEAF MINER (Gracilaria syringella) - MONTANA - Very abundant east of the Rockies in July. (Roemhild).

SPIDER MITES - MONTANA - Infestations generally lower than usual at this time of year. Some infestation on evergreens and other ornamentals. (Roemhild, July 1-Aug. 1). MARYLAND - Injuring maples, spruce, plum, rose and other ornamentals at various localities in the State. (U. Md., Ent. Dept.).

SADDLEBACK CATERPILLAR (Sibine stimulea) - RHODE ISLAND - Causing local concern in East Greenwich area feeding on oak. (Hansen).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - RHODE ISLAND - Various species becoming more numerous and annoying in Narragansett and South Kingstown area. (Hansen). MINNESOTA - Of the 355 larval collections, 122 were Aedes, mainly A. vexans and A. trivittatus, and 177 were Culex, mainly C. tarsalis. A. vexans comprised 69.1 percent of the light trap collections. Observations made during period August 2-8. (Minn. Ins. Rpt.). NEBRASKA - C. tarsalis larvae numerous in irrigation waste water in central area. (Rapp). CALIFORNIA - Populations of unspecified species have increased in the area from mid-Stanislaus County to Shasta County with numerous complaints from home owners. Highest instances for all species occurred in Colusa and Tehama Counties. C. tarsalis incidence generally very low over State. (Vector Control). UTAH - Undetermined species extremely numerous at Genola, and annoying at Provo, Springville and Goshen, in Utah County. C. tarsalis populations have been increasing recently. (Knowlton).

A MUSCID (Musca autumnalis) - NEW JERSEY - Intense attacks by a fly, probably this species, on heads of dairy cattle were noted at 2 locations in Hunterdon County. (Ins. Dis. Newsl.). PENNSYLVANIA - Fairly heavy on cattle in western area and light to moderate in northeastern section. Det. C. W. Sabrosky. (Gesell). DELAWARE - Of flies collected from Hereford steers at Newark, some were suspected to be this species. (Burbutis, Mason). OHIO - Continues to cause annoyance to cattle throughout State. (C. R. Neiswander). ILLINOIS - Positive determinations have been made from Lee, Will, Grundy, Ford, Champaign, Jasper and Henderson Counties. (Ill. Ins. Rpt.).

HOUSE FLY (Musca domestica) - ARIZONA - Heavy populations a problem to poultrymen in Graham County. Control with sprays unsuccessful. (Ariz. Coop. Sur.). OKLAHOMA - Counts averaged 7.5 per animal on 21 untreated cows at Stillwater. (Mount, Henderson).

STABLE FLY (Stomoxys calcitrans) - NEBRASKA - Populations increasing in eastern area. (Roselle). OKLAHOMA - Counts averaged 3.8 per animal on 21 cows at Stillwater. (Mount, Henderson).

HORN FLY (Siphona irritans) - NEBRASKA - Populations averaged 350 per animal on 34 cows in Red Willow County. (Webb). OKLAHOMA - Counts averaged 150 per animal on calves, 300 per animal on cows and 1000 found on one bull in a herd of 55 beef cattle in the Lebanon area. (VanCleave, Stiles, Vinson). Counts averaged 25 per animal on 21 untreated cows at Stillwater. (Mount, Henderson). UTAH - Moderately severe on Sevier and Garfield County cattle. (Knowlton).

SCREW-WORM (Callitroga hominivorax) - LOUISIANA - First report in State this year. Infestation detected at Delta Station at Tallulah on a hog in transit from outside the State. (Spink).

TABANIDS - KANSAS - Both Tabanus sulcifrons and T. atratus heavy on cattle in Marion County. Collected 16 in 15 minutes on walnut tree leaves and in car in Pottawatomie County. (Peters). OKLAHOMA - Counts of unspecified species averaged 2 per animal on 55 head of beef cattle in Lebanon area. (VanCleave, Stiles, Vinson). MONTANA - Chrysops spp. common and annoying July 1-20 in mountain area in central and southern sections of State. (Roemhild).

BROWN DOG TICK (Rhipicephalus sanguineus) - ARIZONA - A problem on dogs and around homes in Phoenix area of Maricopa County. (Ariz. Coop. Sur.).

A BROWN SPIDER (Loxosceles reclusa) - KANSAS - Collected from a home in Garden City, Finney County. This is the first known report from southwestern Kansas. (DePew). MISSOURI - Over 100 of these spiders found in a single room in Phelps County. (Kyd, Thomas, Munson).

BENEFICIAL INSECTS

LADY BEETLES - KANSAS - Hippodamia convergens counts ranged from less than one to 17 per sweep in alfalfa. Heaviest population was in a field heavily infested with spotted alfalfa aphid in Pawnee County. (Peters). OKLAHOMA - Counts of H. convergens variable in several crops over the State. (VanCleave et al.). SOUTH DAKOTA - Moderate to heavy populations of Hippodamia spp. present in most alfalfa fields in southeast area. (Mast).

NABIDS (Nabis spp.) - KANSAS - Counts ranged 0-3 per sweep in south central and southwestern area alfalfa fields. (Peters). IDAHO - Averaged 1.5 per sweep in red clover fields south of Parma, with a ratio of one adult to 2 nymphs. (Waters). OKLAHOMA - Ranged 0.1-0.5 per sweep in alfalfa fields surveyed in south central and central areas. (VanCleave et al.). SOUTH DAKOTA - Populations moderate to heavy in alfalfa in southeast area of State. (Mast).

LACEWINGS (Chrysopa spp.) - KANSAS - Ranged 0-2 per sweep in alfalfa in south central and southwestern areas of the State. (Peters). OKLAHOMA - Counts ranged 0.1-1 per sweep in alfalfa fields surveyed in south central and central areas. Eggs and larvae common in cotton fields checked in same areas. (VanCleave et al.). Light numbers of eggs noted in cotton fields checked in southwestern area. (Hatfield).

FLOWER BUGS (Orius spp.) - OKLAHOMA - Orius sp. populations light and common in alfalfa fields surveyed in south central and central areas. (VanCleave et al.). IDAHO - O. tristicolor averaged 2 per sweep in Canyon County red clover fields. Nymphs easily found in blooming alfalfa seed fields. (Waters).

BIG-EYED BUGS (Geocoris spp.) - IDAHO - Averaged 8 per sweep in a red clover field south of Parma. (Waters).

PREDACEOUS MITES (Typhlodromus spp.) - IDAHO - Caused a drastic reduction of populations of Tetranychus spp. in alfalfa and red clover seed fields, generally, in southwestern area. (Waters).

MISCELLANEOUS INSECTS

JAPANESE BEETLE (Popillia japonica) - NEW YORK - Appears to be decreasing in Suffolk County. (N. Y. Wkly. Rpt., Aug. 10). FLORIDA - Operation of 166 traps in 15 counties gave negative results during July. (Fla. Coop. Sur.).

OLD-HOUSE BORER (Hylotrupes bajalus) - NORTH CAROLINA - Large numbers of adults in Johnston County. (Jones, Farrier).

A STINK BUG (Euschistus ictericus) - SOUTH CAROLINA - Collected in Jasper County, and determined by P. D. Ashlock. There is but a single previous record for the State. (Nettles et al., Aug. 5).

GIANT HORNET (Vespa crabro germana) - SOUTH CAROLINA - A large group entered and upset a household in Jonesville, Union County. (Nettles et al., Aug. 5).

AN EARTHWORM MITE (Fuscuropoda agitans) - CALIFORNIA - Heavy infestation on roots of stock plants in Stockton, San Joaquin County. (Cal. Coop. Rpt.).

CORRECTIONS

CEIR 9(32) : 736 - EASTERN SPRUCE GALL APHID (Chermes abietis) - PENNSYLVANIA - Should read: "Heavy on Norway spruce in Christmas tree plantations and in nurseries in Lancaster and York Counties."

CEIR 9(33) : 758 - SCALE INSECTS - IDAHO - Phenacoccus pinifoliae should read Phenacaspis pinifoliae.

ADDITIONAL NOTES

NEW YORK - TWO-SPOTTED SPIDER MITE (Tetranychus telarius) building up slowly in Saratoga County, very fast in Orleans County. EUROPEAN RED MITE (Panonychus ulmi) declining fast in Orleans County. PEAR PSYLLA (Psylla pyricola) beginning to appear in Orleans County. CORN EARWORM (Heliothis zea) ranged from practically nil in treated sweet corn ears to 5 percent in untreated ears in the Hudson Valley area. TARNISHED PLANT BUG (Lygus lineolaris) and LEAFHOPPERS heavy on bean plants in Livingston County. APHIDS building up rapidly on cole crops in Monroe County. A WEEVIL (Hyperodes anthracinus) found in spotty turf infestation at Hicksville, Long Island, during a survey for European chafer. This insect is new to the State. Musca autumnalis found to be serious in 10 counties surveyed August 3-13. Some of the worst infestations are in far western area (Erie and Chautaugua Counties) and in the Hudson Valley area (Dutchess and Columbia Counties). (N. Y. Wkly. Rpt.).

COLORADO - BEET LEAFHOPPER (Circulifer tenellus) and incidence of curly top virus in tomatoes and sugar beets of concern in Prowers, Bent, Otero and Pueblo Counties. Disease in tomatoes as high as 30 percent and widespread and symptoms appearing in some sugar beet fields. Light trap collections of SIX-SPOTTED LEAFHOPPER continue high in Otero and Weld Counties but incidence of aster yellows continues low. APHIDS building up on late planted potatoes in Weld County. CORN LEAF APHID (Rhopalosiphum maidis) populations well distributed through northeast area, but counts are low. No new infestations of SPOTTED ALFALFA APHID (Therioaphis maculata) found in northeastern counties. WESTERN CORN ROOTWORM (Diabrotica virgifera) averaged 5-10 per plant in isolated spots in Fruita area of Mesa County. (Colo. Ins. Sur.).

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Agrot. yps.	Laphyg. frug.	Perid. marg.	Protoparce quinq. sexta		Heliothis zea vires.	
ALABAMA								
Auburn 8/7			8		2		43	3
ARKANSAS								
Fayetteville 8/6-12	8	16					121	
Hope 8/6-12	2	8		2			16	
Kelso 8/6-12	7	1					29	
Morrilton 8/6-12	9	18	19				35	
FLORIDA								
Gainesville 8/10						4	43	
Quincy 8/10						34	143	13
ILLINOIS								
Urbana 8/7-13	20	75	8	5		24	68	
INDIANA (Counties)								
Lawrence 8/5,7-11	34	7		1	64	48	2	
Tippecanoe 8/7-13	50	12		2		3	53	
KANSAS								
Manhattan 8/7-11	19	36		2	4	4	52	
Wathena 8/6-10	23	43		8	29	11	44	
LOUISIANA								
Baton Rouge 8/7-13	9	13	577				93	
Franklin 8/12	7		40				10	
MAINE								
Orono 8/2-8	3							
MARYLAND								
Fairland 7/31-8/12	22	11	10	9	8	9	7	
Upper Marlboro 7/28-8/7	4		2		41	33		
MISSISSIPPI								
*Stoneville 8/7-13	126	28	321	1		61	699	20
MISSOURI								
Columbia 8/3-15	51	213	69		126		191	
Sikeston 8/8-14	8			2			338	
NORTH CAROLINA								
Clayton 8/13	9	8				9	55	7
Faison 8/13	32	24				36	373	12
OREGON								
Salem 7/28-8/13		14					1	
SOUTH CAROLINA								
Charleston 8/10-16	9	9	123		1	14	473	2
TENNESSEE (County)								
Blount 8/4-10	1	11	2			7	12	
TEXAS								
Brownsville 7/25-31			164				88	964
Waco 8/8-14	37	7		47			3118	59

(Continued on page 788)

*Four traps - Stoneville

LIGHT TRAP COLLECTIONS - Continued

	Pseud. unip.	Agrot. yps.	Laphyg. frug.	Perid. marg.	Protoparce quinq. sexta	Heliothis zea vires.
WISCONSIN						
Antigo 8/3-9	1	24		22		
*Arlington 8/4-10	72	92	5	230	1	6
Beaver Dam 8/4-10	63					7
Bryon 8/4-10	99	25		75		
Fox Lake 8/4-10	85					3
Janesville 8/4-10	58				2	2
Johnsburg 8/4-10	28	11				
Platteville 8/4-10	112	60				8
River Falls 8/3-10	25	15		1	1	1
Stevens Point 8/4-10	2	2		1		
*Theresa 8/4-10	98					4

*Two traps - Arlington; 3 traps - Theresa

SUMMARY OF INSECT CONDITIONS - 1958

CALIFORNIA

Compiled by Ronald M. Hawthorne

Cereal and Forage Insects: MITES were generally prevalent over the State and caused light to severe damage to clover, alfalfa and other plantings. CLOVER MITE (Bryobia praetiosa) caused moderate, general damage to ladino clover in Glenn County and was a nuisance in homes in many areas. TWO-SPOTTED SPIDER MITE (Tetranychus telarius) required extensive control on field crops, especially beans. THRIPS damaged flax in southern desert areas. APPLE GRAIN APHID (Rhopalosiphum fitchii) was light on grains. PEA APHID (Macrosiphum pisi) was general in alfalfa-growing areas, being a problem in the cooler months. Estimated damage and loss was \$241,500. SPOTTED ALFALFA APHID (Therioaphis maculata), credited with an estimated damage and loss of \$9,704,627 in 1957, is now under semi-biological control. In 1958, the loss estimate was \$1,694,064. Chemical control was not encouraged except in critical situations because of biological balance, except during August, September and October, when extensive control was required. Praon palitans, Trioxys utilis, Aphelinus semiflavus, five species of pathogenic fungi and many native predators were responsible for control. Anticipated GRASSHOPPER outbreaks failed to materialize due to late rains which extended green vegetation over rangeland areas, resulting in no migration to croplands. Severe damage occurred in a few counties, with some damage in all counties. Considerable control occurred statewide. Estimated damage and loss amounted to \$4,836,133. LYGUS BUGS (Lygus spp.) caused considerable damage in all alfalfa-growing areas, especially to seed alfalfa, with proportionable damage to other susceptible crops. It was estimated that loss and damage was approximately \$6,611,118. Safflower and trefoil were also heavily damaged in many locations. STINK BUGS were a problem on southern desert area alfalfa.

ALFALFA WEEVIL (Hypera postica) was medium to heavy on alfalfa in Lassen, Siskiyou and Modoc Counties and appeared in Fresno and San Benito Counties for the first time. Estimated loss and damage was \$84,775. CLOVER LEAF WEEVIL (Hypera punctata) was light to medium in the Montague-Ft. Jones area, Siskiyou County. Total damage and loss estimates in the State amounted to \$100,000. Some control of EGYPTIAN ALFALFA WEEVIL (Hypera brunneipennis) was required in the extreme southern part of the State. Once considered a desert species, heavy populations now occur along the coast to northern Ventura County and cause considerable damage. A BLISTER BEETLE (Tegrodera erosa) damaged alfalfa in Los Angeles and San Diego Counties in June and July. Infestations of a LEAF MINER (Hydrellia griseola) in rice were heavy in Colusa and light in Glenn Counties, causing an estimated \$21,000 in damage and loss. ALFALFA CATERPILLAR (Colias philodice eurytheme) was light to heavy in alfalfa in Merced, Glenn, Yuba, Fresno and Sutter Counties, causing an estimated damage and loss of \$764,276, and ARMYWORM (Pseudaletia unipuncta) was serious statewide on Sudan grass, soybeans, garbanzo beans, corn, alfalfa and barley, with damage and loss estimated at \$258,690. BEET ARMYWORM (Laphygma exigua) seriously damaged alfalfa, corn, garbanzo beans and other field crops statewide, requiring control and causing \$1,303,120 in damages and losses. CORN EARWORM (Heliothis zea) was generally light in field corn statewide, with a few locally medium to heavy infestations. CUTWORMS were generally more prevalent on all crops over the State than in past few years and caused severe damage to many crops, requiring control. Flights of PAINTED-LADY (Vanessa cardui) adults were possibly the heaviest in years. Larvae damaged weeds and some crops beginning in southern counties and progressing northward as the season continued. SUNFLOWER MOTH (Homoeosoma electellum) considerably damaged sunflower seed crops in Yolo and Sacramento Counties and CLOVER SEED CHALCID (Bruchophagus gibbus) was heavy in alfalfa seed in Imperial County.

Fruit Insects: MITES were generally prevalent and caused light to severe damage to fruit and nut crops over the State. An AVOCADO MITE (Oligonychus punicae) was generally light in avocado groves in Orange, San Diego and Santa Barbara Counties. PARASITES and PREDATORS, including Stethorus picipes and Somatium oviformis, apparently controlled these pests during most of the year. Heavy buildups of CITRUS BUD MITE (Aceria sheldoni) occurred in lemon groves not treated in 1957. Another CITRUS MITE (Brevipalpus lewisi) caused light scarring of citrus fruit in limited areas of San Bernardino, San Diego and Orange Counties. CITRUS RED MITE (Panonychus citri) was troublesome in southern areas and infestations ranged light to severe. A heavy buildup in August was noticeable. CITRUS RUST MITE (Phyllocoptruta oleivora) was active on citrus in Orange, San Diego and Santa Barbara Counties, requiring control in most cases. A FRUIT MITE (Bryobia rubrioculus) caused considerable damage to deciduous fruit trees in southern and northern areas in June and July where controls had been neglected. Control of a RUST MITE (Rhyncaphytoptus ficifoliae) in Fresno and Madera County fig orchards was necessary to avoid severe damage. Damage to grapes by PACIFIC MITE (Tetranychus pacificus) was early and minor in the Calistoga-St. Helena area, Napa County, and moderate in the Livermore area, Alameda County. Loss and damage was approximately \$56,500. Light to moderate PEACH SILVER MITE (Vasates cornutus) populations damaged San Joaquin County peaches in July and August. PEAR LEAF BLISTER MITE (Eriophyes pyri) damaged pear trees in Santa Cruz, San Diego and Calaveras Counties in April through June and was light on Tuolumne County apples in September. Total damage and loss was estimated at \$117,500. PEAR RUST MITE (Epitrimerus pyri) severely damaged some San Diego County orchards where rains prevented spring treatment. An ERIOPHYID MITE (Aceria essigi) was generally medium to heavy on Santa Cruz County boysenberries and light on most bushberries in other localities. SIX-SPOTTED MITE (Eotetranychus sexmaculatus) trace infestations occurred in Santa Barbara County coastal citrus and TWO-SPOTTED SPIDER MITE (T. telarius) severely damaged deciduous fruits, grapes and almonds over the State beginning in June, with many groves partially defoliated late in the season, despite controls. Spring infestations of Eotetranychus willamettei were light to heavy on grapes in Napa and San Joaquin Counties.

THRIPS damaged many crops during 1958. Varying populations of CITRUS THRIPS (Scirtothrips citri) caused leaf damage and fruit scarring of citrus in Riverside, San Bernardino and San Diego Counties and was more prevalent in Los Angeles County than in previous years. EUROPEAN EARWIG (Forficula auricularia) caused light to medium damage to pear trees in some Santa Cruz County locations; heavy damage to three-year-old cherries in the Linden area, San Joaquin County; moderately damaged fruit trees in San Benito County; damaged maturing walnut trees in Calaveras County; and damaged prune and pear trees in Santa Clara County. Total damage and loss approximated \$46,970. KATYDIDS caused medium damage to citrus in Arlington-Corona areas, Riverside County, and grape vines in St. Helena area, Napa County. BLACK SCALE (Saissetia oleae) infestations were light to heavy throughout the southern citrus-growing area and on commercial olive plantings in Tulare, Merced and Yolo Counties, where controls were required, as well as on a wide range of ornamentals. Damage and loss amounted to about \$1,130,350. PARASITES (Aphycus helvolus and Coccophagus rusti) materially aided control. CALIFORNIA RED SCALE (Aonidiella aurantii) continued serious in southern citrus-growing areas and occurred in a few locations in northern counties. Estimated damage and loss in 1958 was \$2,514,857. A warm, dry fall caused a rapid buildup in some counties and a possible extra generation. Ants also aided the buildup and spread. Several species of PREDATORS and PARASITES aided in controlling infestations. CITRICOLA SCALE (Coccus pseudomagnoliarum) was general and light in Tulare County. COTTONY-CUSHION SCALE (Icerya purchasi) was light to medium on citrus locally in Tulare, Riverside and San Diego Counties, and showed a decrease from 1957. EUROPEAN FRUIT LECANIUM (Lecanium corni complex) was generally light locally on prunes, apricots, plums and pears along the coast from Napa to San Benito Counties, developing to heavy where dormant spray was not applied. Estimated loss and damage was \$25,000. Local fig orchards in Fresno and Merced Counties showed an increase of FIG SCALE (Lepidosaphes ficus). Infestations of a FROSTED SCALE (Lecanium pruinosum) were generally heavy on walnut plantings in Stanislaus County and local

in Merced and San Joaquin Counties, with approximately \$52,000 in damages and losses. ITALIAN PEAR SCALE (Epidiaspis piricola) infested pears and prunes in the Highlands area, Santa Cruz County; was moderate to heavy on Santa Clara County prunes; and occurred locally on Alameda County walnuts and apricots. Another SCALE (Aspidiotus lataniae) was generally light on Orange County avocado and very low locally in San Diego County. OLIVE SCALE (Parlatoria oleae) was general on San Joaquin Valley deciduous fruits and olives, necessitating treatment in some counties. Damage and loss amounted to about \$433,131. Parasites were active in most areas. PURPLE SCALE (Lepidosaphes beckii) was generally light, with local medium infestations in Orange County and a local light infestation in the El Cajon area, San Diego County. SAN JOSE SCALE (Aspidiotus perniciosus) was a major pest of deciduous fruits and almonds in the Sacramento and San Joaquin Valleys and seriously damaged trees where controls were not applied. An estimated \$974,690 were credited to loss and damage. YELLOW SCALE (Aonidiella citrina) was light to severe in Tulare County citrus, generally; heavy in Stockton, San Joaquin County; and light in Orland, Glenn County.

A very rapid buildup of APHIDS on southern area citrus early in the year was complicated by rain which prevented treatment. Serious damage did not develop, as a parasitic fungus, Entomophthora aphidis, increased rapidly to control the outbreak. APPLE APHID (Aphis pomi) was light to severe on apples in Napa, Santa Cruz and Tuolumne Counties and light to heavy on Lassen County deciduous fruit trees. MEALY PLUM APHID (Hyalopterus arundinis) caused considerable leaf-curl in Napa, Colusa and Yolo County prune orchards. Estimated damage and loss was \$140,000. ROSY APPLE APHID (Anuraphis roseus) was generally light to medium on apples in Santa Cruz County and in local areas of Napa County. WALNUT APHID (Chromaphis juglandicola) was general on walnuts statewide, with light to severe damage in Santa Barbara, Napa, Orange, Ventura and Yolo Counties. Losses and damage were estimated to be \$439,456. Some areas required extensive treatment. GRAPE PHYLLOXERA (Phylloxera vitifoliae) was light generally on Tulare County grapes and reported for the first time from Stanislaus County. CITRUS MEALYBUG (Pseudococcus citri) was light on citrus most of 1958 but increased locally in the fall in Santa Barbara and San Diego Counties. Biological control aided materially and several liberations of Cryptolaemus montrouzieri were made. GRAPE MEALYBUG (P. maritimus) was light to medium in Tulare and Fresno County grape vineyards, light on oranges in Orange County and locally moderate on Alameda County apricot. LONG-TAILED MEALYBUG (P. adonidum) was light on Orange County oranges. An infestation of CITRUS WHITEFLY (Dialeurodes citri) was discovered for the first time in the State in 22 city blocks in Sacramento, Sacramento County, on several different hosts in January. Eradication treatment was applied to 55 city blocks. Post-spray checks were negative for live citrus whitefly. LEAFHOPPERS damaged prune trees locally in San Benito and Santa Clara Counties and a GRAPE LEAFHOPPER (Erythroneura sp.) was particularly damaging to grape vineyards locally in San Bernardino, Madera, San Joaquin and San Diego Counties. STINK BUGS appeared early, damaged pears in Sacramento and El Dorado Counties and were general in Tuolumne County. DRIED-FRUIT BEETLE (Carpophilus hemipterus) caused moderate damage to Kern County raisin grapes and figs in Fresno and Madera Counties.

A NITIDULID (Haptoncus luteolus) was more numerous than previously reported. FULLER ROSE BEETLE (Pantomorus godmani) populations were heavy and damaging in many citrus groves in the Highgrove area, Riverside County, and light in Escondido area, San Diego County. Light infestations of a LEAF WEEVIL (Adaleres humeralis) occurred on avocado in this same area. A SCAVENGER FLY (Lonchaea n. sp.) attacking sound apricot in the Alpine area, San Diego County, required control. Populations of a VINEGAR FLY (Drosophila melanogaster) were heavier in 1958 than previously recorded. The range of WALNUT HUSK FLY (Rhagoletis completa) was extended to the San Joaquin and Sacramento Valleys to include Calaveras, Mariposa, San Joaquin, Santa Cruz and Tuolumne Counties. CODLING MOTH (Carpocapsa pomonella) caused an estimated \$1,884,752 damage and loss in 1958. Deciduous fruits and walnuts were damaged from Lassen to San Diego Counties, with extremely

heavy damage to pears in some locations. FRUIT TREE LEAF ROLLER (Archips argyrospila) damaged grapes, pears and walnuts locally. GRAPE LEAF FOLDER (Desmia funeralis) caused damage in grape-growing areas north of the Tehachapi Mountains. NAVEL ORANGEWORM (Paramyelois transitella) seriously damaged walnuts and almonds from Tehama to Stanislaus and San Benito Counties, with up to 10 percent damage in Tehama County. Total damage and loss was estimated at \$370,000. ORANGE TORTRIX (Argyrotaenia citrana) was light to heavy on Santa Cruz County apples and pears and light to medium on citrus in Orange County. Medium local damage by ORIENTAL FRUIT MOTH (Grapholitha molesta) occurred to late peaches in Orange County. PEACH TWIG BORER (Anarsia lineatella) caused an estimated \$3,530,123 loss and damage, nearly a million dollars more than in 1957. This species was general in all deciduous fruit-growing areas and damage was varied. Some damage occurred to almond fruit. RED-HUMPED CATERPILLAR (Schizura concinna) was most damaging to young walnuts, but was spotty from Mendocino to San Joaquin Counties. Several species of TENT CATERPILLARS (Malacosoma spp.) caused considerable damage to deciduous fruit trees in Alameda, Marin, Santa Clara, Napa, Humboldt and Santa Cruz Counties and moderate damage to Yolo County walnuts in September. Most WESTERN TUSSOCK MOTH (Hemerocampa vetusta) damage occurred to citrus from March to May. Populations were light to moderate in Los Angeles, Riverside, Orange and San Bernardino Counties. Light to moderate, scattered damage, occurred to Santa Clara County prunes. WESTERN GRAPE LEAF SKELETONIZER (Harrisina brillians) in the El Cajon Valley was not damaging, probably because of parasites. PEAR-SLUG (Caliroa cerasi) caused light to medium damage, defoliating pear and cherry trees in Mendocino, Napa, Lassen and Riverside Counties.

Truck Crop Insects: MITE infestations were very heavy on sugar beets, cantaloups and watermelons in Imperial County, light to medium on strawberries in Tehama and Santa Barbara Counties, damaged beans in Calaveras County and lettuce in San Benito County. BULB MITE (Rhyzoglyphus echinops) was heavy on garlic in Merced area, Merced County, in May. CYCLAMEN MITE (Steneotarsonemus pallidus) infested strawberries over the State, with damage in Orange, San Diego, Santa Cruz and Santa Barbara Counties. TOMATO RUSSET MITE (Vasates lycopersici) was medium in Yolo, Sacramento, Napa, San Benito, Santa Barbara and Orange Counties. Controls were required in late season in many locations. Damage and loss was estimated at \$139,000. TWO-SPOTTED SPIDER MITE (Tetranychus telarius) caused an estimated \$1,801,895 damage. Rapid buildups severely damaged many crops over the State. BEAN THRIPS (Hercothrips fasciatus) lightly damaged beans in Colusa County fields. ONION THRIPS (Thrips tabaci) infestations were light to medium on beans in Orange County, light on onions in Riverside County, heavy on onion and garlic in Imperial County and caused some damage to Sacramento County tomatoes. EUROPEAN EARWIG (Forficula auricularia) damaged beans in Santa Barbara, artichokes in Santa Cruz and truck crops in Marin Counties and home gardens in many northern counties. GRASSHOPPERS caused considerable damage to truck crops and home gardens statewide, but less than anticipated. A FIELD CRICKET (Acheta sp.) heavily damaged melon crops in Imperial County. APHIDS were generally light to severe on many truck crops, requiring considerable control. APPLE APHID (Aphis pomi) damage was severe on Merced County watermelon plantings; spotted, heavy on carrots and light on tomatoes in Imperial County; and light to medium on Tulare County truck crops. BEAN APHID (Aphis fabae) was medium locally on beans in Orange County in July. CABBAGE APHID (Brevicoryne brassicae) caused light to medium damage to cole crops in Alameda, Orange, San Diego, Santa Barbara and Santa Cruz Counties. Damage and loss were estimated at \$764,593. Anuraphis apiifolia was light locally on celery in San Diego and San Luis Obispo Counties. GREEN PEACH APHID (Myzus persicae) was medium on Santa Cruz County lettuce and potatoes and necessitated control on potatoes in Santa Barbara County. Light to heavy infestations on peppers presented some control difficulty in San Diego County. Loss and damage approximated \$736,000. A LETTUCE ROOT APHID (Pemphigus bursarius) damaged lettuce in the Fremont area, Alameda County, during July. PEA APHID (Macrosiphum pisi) caused considerable damage in pea-growing areas. Mosaic damage of 10-60 percent, with an estimated 25 percent yield reduction, occurred in San Luis Obispo County. Infestations were light in Orange County and damage moderate in the delta region of Sacramento County.

GROUND MEALYBUG (Rhizoecus falcifer) was spotted, heavy in Santa Cruz County strawberry plantings, while TOMATO PSYLLID (Paratrioza cockerelli) was spotty on tomatoes in the Chula Vista area, San Diego County. A STINK BUG (Euschistus conspersus) severely damaged tomatoes locally in Merced County. CABBAGE SEEDPOD WEEVIL (Ceutorhynchus assimilis) damage was light to Santa Cruz County cabbage seed production. Larvae and adults of CUCUMBER BEETLES (Diabrotica spp.) damaged beans, cucumbers, melons and tomatoes generally in northern areas. Forty acres of potatoes were disced under in the Murietta area, Riverside County, because of a heavy infestation. Damage was moderate to Sacramento County hops and heavy to squash in San Joaquin County. A FLEA BEETLE (Epitrix sp.) was heavy on San Joaquin County tomatoes and sugar beets in May and PEPPER WEEVIL (Anthonomus eugenii) was medium to heavy in San Diego County pepper fields. ARMYWORM (Pseudaletia unipuncta) damage was heavy on several crops in Imperial, medium on garbanzo beans in Santa Barbara and light to medium on soybeans in Lake Counties. ARTICHOKE PLUME MOTH (Platyptilia carduidactyla) was particularly damaging, with 60 percent bud damage in one location and up to 30 percent in other areas during the season. BEET ARMYWORM (Laphygma exigua) was medium on 2,000 acres of garbanzo beans, requiring control, in Los Angeles County, and light to medium in Orange County. Infestations were medium to heavy on sugar beets in Colusa, Sacramento and Imperial Counties, heavy and damaged peas and cabbage in Santa Cruz County and medium to heavy on truck crops and celery in San Diego and Orange Counties. CABBAGE LOOPER (Trichoplusia ni) and ALFALFA LOOPER (Autographa californica), often in mixed populations, caused \$4,365,461 damage and loss. CORN EARWORM (Heliothis zea) was the number one pest in the State with an estimated \$7,426,398 damage and loss. Light to heavy damage occurred in all counties, with corn and tomatoes the most severely damaged crops. CUTWORMS were prevalent statewide causing considerable damage and treatment cost. Total damage and loss amounted to \$1,276,398. IMPORTED CABBAGEWORM (Pieris rapae) caused light to medium damage to cabbage and cauliflower in Alameda and Santa Barbara Counties.

LIMA-BEAN POD BORER (Etiella zinckenella) caused a 5-15 percent loss of lima beans in San Diego County and some damage in other bean-growing areas. ORANGE TORTRIX (Argyrotaenia citrana) damage to strawberries was light to medium in the Santa Maria area, Santa Barbara County. Unusually heavy flights of PAINTED-LADY (Vanessa cardui) occurred over the State. Populations fed primarily on malva, but varying degrees of damage occurred to tomatoes, lettuce, cole crops, hops and carrots. POTATO TUBERWORM (Gnorimoschema operculella) caused damage in potato-growing areas of San Benito and Riverside Counties, estimated at about \$499,144. SALT-MARSH CATERPILLAR (Estigmene acrea) was general over the State, with economic buildups on strawberries in Santa Cruz, beans in Madera and lettuce in Riverside Counties. Medium to heavy BEET WEBWORM (Loxostege sticticalis) populations damaged Colusa County sugar beets in July. TOMATO HORNWORM (Protoparce quinquemaculata) caused light damage to tomatoes in Sacramento, Santa Barbara, Calaveras and Alameda Counties. TOMATO PINWORM (Keiferia lycopersicella) lightly damaged tomatoes in San Diego County. CABBAGE MAGGOT (Hylemya brassicae) lightly damaged radish and cole crops locally in Alameda and Santa Cruz Counties. LEAF MINERS (Liriomyza spp. and Tischeria spp.) caused heavy damage to various crops over the State. PAVEMENT ANT (Tetramorium caespitum) was serious enough in tomato fields to require control in Sacramento, Yolo and San Joaquin Counties.

Cotton Insects: Generally, MITES required treatment most of the growing season, with some severe outbreaks being reported. An apparent resistance to phosphate materials was reported locally. APHIDS caused damage to cotton plantings in all areas; treatment required. WHITEFLIES were present in many cotton fields over the State, being heaviest in field margins. Crumple leaf disease was serious locally in the Imperial and Palo Verde Valleys. Populations of LYGUS BUGS (Lygus spp.) were variable and damaging. An apparent tolerance to some insecticides developed in areas of Kern and Fresno Counties. STINK BUGS were present in cotton fields and occasionally heavy in desert areas. BEET ARMYWORM (Laphygma exigua) caused light damage to cotton in several areas. CABBAGE LOOPER (Trichoplusia ni) populations were heavy and damaged Imperial Valley cotton and were generally light in other areas. Light to medium BOLLWORM (Heliothis zea) populations were

damaging in all cotton-growing areas. COTTON LEAF PERFORATOR (Bucculatrix thurberiella) was heavy locally in Riverside and Imperial Counties where stub cotton is grown, causing an estimated \$1,135,187 in loss and damage. PAINTED-LADY (Vanessa cardui) migrations required control in a few cases. SALT-MARSH CATERPILLAR (Estigmene acrea) caused varying amounts of damage in all cotton-growing areas and required considerable treatment.

Forest, Ornamental and Shade Tree Insects: A RHODODENDRON APHID (Masonaphis rhododendri) was heavy and damaged wild rhododendrons in the Ft. Bragg area, Mendocino County, and was more serious than previously reported. Populations of a PSYLLID (Psylla uncatoides) became heavy on acacia trees in San Diego County urban areas. CALICO SCALE (Lecanium cerasorum) damaged large elms in Napa and EUROPEAN ELM SCALE (Gossyparia spuria) was widely distributed over the State on elms, the honeydew being a nuisance. GOLDEN OAK SCALE (Asterolecanium variolosum) damaged oaks in San Joaquin, Marin and Santa Cruz Counties. A PINE SCALE (Physokermes insignicola) occurred locally in Marin County. SPRUCE BUD SCALE (P. piceae) was medium on spruce in San Rafael, Marin County and in three locations in Alameda County. This species was new to the State in 1958. Another SCALE (Asterolecanium arabidis) was serious on ornamentals in Woodland, Yolo County. A PLANT BUG (Neoborus illitus) caused light damage to ash trees in Shasta, Glenn and Yolo Counties. ELM LEAF BEETLE (Galerucella xanthomelaena) caused extensive damage to elms in many locations and considerable control was applied. A medium infestation of a PINE REPRODUCTION WEEVIL (Cylindrocopturus eatoni) on pines in Tuolumne County required control on several acres. RED TURPENTINE BEETLE (Dendroctonus valens) killed ornamental and forest pines in Tuolumne, Calaveras and Alameda Counties. Several large elms in Sacramento were killed by SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) and heavy populations occurred in Yolo County. This species now occurs in both northern and southern areas of the State. CALIFORNIA OAKWORM (Phryganidia californica) was not generally serious on oaks in 1958. CARPENTERWORM (Prionoxystus robiniae) was a local problem in San Joaquin, Fresno County, attacking elms. GRANULATE CUTWORM (Feltia subterranea) was problem in dichondra lawns in San Diego and Los Angeles Counties. Monterey pines in the Pasadena-Sierra Madre areas required treatment for a GELECHID (Exoteleia burkei). In San Joaquin County, a CASEMAKER (Bucculatrix albertiella) was heavy on valley oaks. Considerable defoliation was caused to oaks in the St. Helena-Calistoga areas by YELLOW-NECKED CATERPILLAR (Datana ministra) and to ash in the St. Helena area by BROWN-HEADED ASH SAWFLY (Tomostethus multicinctus) in Napa County. A GALL WASP (Neuroterus saltatorius) was numerous under oak trees.

Beneficial Insects: HONEY BEE (Apis mellifera) - Beekeepers operated 559,000 colonies in 1958 and honey production was estimated at 44,720,000 pounds, the largest since the alltime high of 1952. Apiary inspection revealed 3,202 colonies infected with American foulbrood. Nesoma disease was prevalent early in the season due to adverse weather.

Some Pests New to the State in 1958: A MEALYBUG (Heterococcus graminicola) on lawn grass in Davis, Yolo County. BLACK PECAN APHID (Melanocallis caryaefoliae) in Riverside, Orange and San Bernardino Counties. These are the first known infestations west of the Rocky Mountains. A CUCUJID (Hemipeplus marginipennis) in a fruit fly trap in July in Santa Cruz County. A PINE RESIN MIDGE (Retinodiplosis inopis) in El Dorado National Forest, previously unrecognized in the West. An ANT (Cardiocondyla nuda minutior) in San Diego. A MITE (Aceria ajugae) in Los Angeles and Sacramento; a first record for North America.

New County Records of Some Important Insects: BROWN-BANDED COCKROACH (Supella supellectilium) in Sacramento and Alameda Counties. PEAR PSYLLA (Psylla pyricola) extended into 6 new northern counties. SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) extended into Alameda County. WALNUT HUSK FLY (Rhagoletis completa) extended range into 5 new northern counties. WESTERN CHERRY FRUIT FLY (R. cingulata indifferens) in Humboldt County. A FAN PALM MOTH (Litoprosopus coachella) in Corning, Tehama County, first record this far north.

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